

B<sup>3</sup> The hollow fibers 70 advantageously comprise a 160 cm length of matted fibers (each fiber advantageously about 8-10 cm in length) loosely rolled into a cylindrical shape, so that about a 0.05 inch space remains between the outer diameter of the fiber roll and the inner diameter of the oxygenator housing. The ends of the fibers proximate the entrance and exit manifolds advantageously are open and clean. A particularly advantageous matted fiber commercially available for use is the AKZO OXYPHAN<sup>TM</sup> fiber mat, a polypropylene hollow fiber mat including 16.8 fibers/cm, each having a wall thickness of about 50  $\mu$ m and about a 280  $\mu$ m inner diameter, available from Akzo Nobel, Germany.

Please replace the second paragraph on page 48 with the following text:

B<sup>4</sup> Turning now to Figure 6, an extracorporeal blood oxygenation circuit is shown including a pump assembly 500 operable to deliver blood withdrawn from a patient to an exemplary liquid-to-liquid oxygenation assembly 600. The assembly 600, portions of which are shown in greater detail in Figures 7A-E, advantageously includes an injector housing 610, a sidewall assembly 620, and a cap 630 joined so as to define an interior space (also referred to as a mixing chamber) 612 within which blood provided by the supply tube 640 mixes with oxygen-supersaturated fluid provided by the capillary assembly 650 to form oxygenated blood. The oxygenated blood exits the interior space 612 via outlet 614 for delivery via return tube 660 to a fluid delivery apparatus 510. The injector housing 610, sidewall assembly 620, cap 630, and other assembly components advantageously are disposable and are made of biocompatible materials, e.g., polycarbonate, polyethylene and the like. The tubing advantageously comprises medical grade PVC tubing.

Please replace the first and the second paragraphs on page 49 with the following text:

B<sup>5</sup> passageway 644 extending through at least a portion of the housing 610 and including a fluid port (also referred to as a first inlet) 646. Advantageously, blood enters the mixing chamber 612 through port 646 so as to create a vortical or cyclonic flow within the mixing chamber 612, e.g., along a path substantially tangential to the chamber wall.

The capillary assembly 650 advantageously includes a single fused silica capillary having a 100  $\mu$ m inner diameter and a 350  $\mu$ m outer diameter, which comprises a continuous fluid pathway between a first end of the assembly 650 operatively coupled to the outlet of an oxygen-supersaturated fluid supply assembly 550 and a second end of the assembly 650 disposed to allow